In the early part of his paper, Professor Montagu quotes from an observation by Professor Strandskov to the effect that if the concept of "races" has any validity, the presence of physiological and "inherent response differences" among such groups would seem to be almost inevitable. Commenting upon this statement, Professor Montagu writes that the results of forty years of psychological testing have failed to reveal differences as among races, whenever these studies have been made by "unprejudiced workers." Apart from the somewhat gratuitous reference to unprejudiced workers, this statement as it stands is certainly misleading and I believe it is definitely incorrect. Psychologists, to be sure, have not always known what their tests were measuring, and some of their methods have not been above reproach. But investigations of race differences in this country have regularly and consistently found differences as between the Negro and white. Such differences are, of course, subject to a variety of interpretations. But the *fact* of their existence can not be denied. I think this distinction between fact and interpretation should be clearly made.

HENRY E. GARRETT

DEPARTMENT OF PSYCHOLOGY,
COLUMBIA UNIVERSITY

THE DISCOVERY OF COELOPLANA ON AMERICAN SHORES

SPECIES of Ctenophores belonging to the Platyctenea, of interest to zoologists by reason of their degenerate structure, creeping habit and possible evolutionary relationship with the Turbellaria, have not previously been reported from the shores of the American continent. During the month of August, however, a Ctenophore belonging to this group was found to exist in considerable numbers at Miami, Fla.

Some unusual marine invertebrates were recently brought to me for identification by Mr. William Sutcliffe, a student at the Marine Laboratory. I was surprised to find that they were a species of Coeloplana, or a closely related genus. They were identified by the flat creeping form, the lack of comb plates and the presence of oral papillae. While moving they reached a length of 8 mm and when fully extended the tentacles measured up to 20 mm. The identification was confirmed by Dr. Libby Hyman, of the American Museum of Natural History.

The specimens upon which identification was based were found crawling in considerable numbers over the surface of algae and hydroids grown in tanks supplied by the laboratory sea water supply. Since their identity and importance became known, Mr. Charles Weiss has informed me that animals answering to their description had previously been observed and photographed by him and that they have frequently been taken from his floating collectors and rafts in the sea water adjacent to the laboratory.

A careful description, based upon more detailed examination, will be published at some future date, and in the meanwhile attention is being paid to the biology and habits of this unusual and interesting animal.

F. G. WALTON SMITH

UNIVERSITY OF MIAMI MARINE LABORATORY,
CORAL GABLES, FLA.

SCIENTIFIC BOOKS

CANCER

The Riddle of Cancer. By CHARLES OBERLING. Translated by W. H. WOGLOM. 196 pages. Yale University Press. 1944. $3.00.

A FEW decades ago cancer research had little to say to the interested public and little to offer to the average investigator, who needs a guiding idea on which to build. Transplantation of tumors had clarified some features of neoplastic growth but confused others, as it is in many respects a mere tissue graft, which, unlike the individual's own cancer, not infrequently regresses. The virus-induced tumors of chickens had no homologues among the mammalian tumors, and even their cancerous nature was doubted. The production of cutaneous tumors by painting the skin with tar merely confirmed human observations. Few suspected that the action of tar was more than that of chronic irritation and that tar contained hydrocarbons which in minute amounts were capable of transforming normal cells into cancer cells; that these hydrocarbons would be synthesized and that their follow-up would bring steroid hormones and bile acids into the orbit of cancer research. Or that the sailor's and farmer's skin cancer was related to exposure to ultra-violet rays, reproducible experimentally at will and the carcinogenic dose expressible in terms of wave-lengths and quantity of irradiation. Or that viruses would be identified in mammalian growth and that their presence might be masked to such an extent that every mammalian tumor would come under suspicion of harboring a virus. Thus cancer research has become an expanding branch of science and of great interest to the general public.

Oberling tells his tale simply and vividly, giving the historical background of cancer research and explaining fully developments in other sciences which have made advancement in cancer research possible.

In tracing the historical development of knowledge of cancer, the tremendous role played by French workers becomes evident. The scientist most often quoted is Borrel, who was among the first to suggest that cancer, including that of the breast, was caused by virus. He adhered to these ideas despite insufficient and often contradictory evidence. No wonder that in a leading review of Oberling's original "Le Problème du Cancer" Borrel is cited in five paragraphs and Peyton Rous is not mentioned, though it was the latter who, with associates, during several decades of systematic research, accumulated a wealth of facts on which the virus theory of cancer rests. These facts will last even if the virus hypothesis should fall. They are duly recognized and related by Oberling, and many of the convincing arguments presented by him in favor of the virus theory are those of Rous and associates.

"The Riddle of Cancer" is as informative as it is interesting. Research workers in the field of cancer will often find their opinion questioned or contradicted; nevertheless, they will be stimulated by this book. The correctness of some of the entertaining stories "behind the curtain" is difficult to ascertain. Hanau, the first to transmit a tumor, is stated to have found his work shamefully neglected and in umbrage destroyed himself. Hanau had carcinoma of the large intestine, which recurred after two operations[1]; this does in part explain his suicide at the age of 41. Eloquence and wit are often coupled with overstatements, *e.g.*, that transplantable tumors are incapable of furnishing information applicable to man. From the time of the brilliant paper of Hanau up to the current papers of Greene on heterotransplantation of tumors, experimentation with transplantable tumors has contributed much to the understanding of the phenomena of cancer. Since tumors arising and transplanted in the homozygous stocks behave almost like the animals' own tumors, they may be found useful in types of experiments where heterozygous mice can not be employed. Investigators must, of course, be familiar with the limitations and pitfalls of working with transplantable tumors.

The hypotheses concerning the immediate cause of cancer are well reviewed, and the conclusion is reached by Oberling that only the virus hypothesis is compatible with all known observations. According to him, the great virtue of the mutation hypothesis is that it leaves the way open for any etiological conception; its great fault, that it explains nothing. Is it not a good explanation of autonomy, the most important feature of a neoplastic cell? Among the other objections to the somatic mutation theory of cancer are that somatic mutations are rare in mammals and the few that are known invariably effect secondary changes like pigmentation; they are never associated with such a radical change as malignant transformation of cells. These are hardly convincing arguments. The strongest point against the somatic mutation hypothesis is the observation that often the development of cancer appears to be a step-by-step change. In the opinion of Oberling, "Alone among the various hypotheses, that of the viruses seems to have a real chance of leading to the goal." Observations in support of the virus hypothesis are well reviewed, whereas those against its acceptance are minimized. Among these is the individuality of each cancer, which in terms of the virus theory would require a distinct virus for each tumor in each individual.

The French edition appeared in 1942. The Jane Coffin Childs Memorial Fund made this work available to the English-speaking world by entrusting its translation, nay, its recast, to no less a craftsman than William H. Woglom. The reader may miss the charm of the French original, but Woglom has accomplished what is seldom done, the pouring from one golden goblet into no baser a metal.

JACOB FURTH

[1] "Ein bewegtes Gelehrtenleben." By Otto Lubarsch, Berlin, 1931.

PERUVIAN ARCHEOLOGY

Peruvian Archeology in 1942. By A. L. KROBER. Viking Fund Publications in Anthropology, Number Four. 151 pp. 48 plates. 8 text figures. New York: The Viking Press. 1944.

DR. KROBER visited Peru in March and April of 1942, journeying from Lima southward to Arequipa and northward to Lambayeque. His book, however, covers a much larger scope, for it deals with all the outstanding problems of Peruvian archeology and with the current ideas of the leading field workers. In 1925 and 1926, the author had conducted excavations in both northern and southern Peru, on which and on museum collections he based various detailed studies. These were partly prepared in collaboration with Drs. Gayton, O'Neil and Strong; they were published by the University of California and Field Museum. His present work not only continues previous studies but is a résumé of the current state of Peruvian archeology.

Dr. Krober points out that some sixty cultural phases are now recognized in Peru. Of these, he has assembled fifty in a chronological tabulation, which presents the cultural sequences as they are now known in eight different areas. The author remarks that such diagrams tend to crystallize into dogma, but they are extremely useful to the non-specialist and specialist alike.

About half of the sixty cultural phases, it is inter-